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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/681,133	10/09/2003	Mikio Ishihara	461-150	6466

23117 7590 10/04/2005

NIXON & VANDERHYE, PC  
901 NORTH GLEBE ROAD, 11TH FLOOR  
ARLINGTON, VA 22203

EXAMINER
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XU, LING X

ART UNIT	PAPER NUMBER
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1775

DATE MAILED: 10/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/681,133

Applicant(s)

ISHIHARA ET AL.

Examiner

Ling X. Xu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 08 September 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) 9-26 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 10/9/2003
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election of Group I, claims 1-8 in the reply filed on 9/8/2005 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2, 4-5 and 7-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Ogawa et al (GB-2017640).

With respect to claims 1-2 and 7, Ogawa discloses a ceramic honeycomb body having channels near the outer peripheral wall thereof, which are filled with a ceramic, or other reinforcing material over the entire length of the channels or over a certain depth from both end surfaces of the channels (abstract). The honeycomb body can be used as a catalyst support for purifying exhaust gases of an internal combustion engine (abstract). The disclosure of Ogawa shows that if a virtual line is drawn on the both end faces of the honeycomb structure by continuously connecting points at a distance of 1.0 to 3.0 times (see Fig. 1B) the pitch of the

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channels in the direction toward the center from the inner surface of the surrounding wall, almost 100% (page 1 lines 55-60) of the peripheral area outside the virtual line is blocked with plug material such as ceramic or other reinforcing material.

With respect to claims 4 and 8, Ogawa discloses that the partition wall has a thickness 0.3 mm, which is within the claimed ranges as recited in claims 4 and 8.

With respect to claim 5, Ogawa discloses that the ceramic honeycomb structure is made of cordierite (page 1, lines 35-40).

***Claim Rejections - 35 USC § 102/103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 3 is rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Ogawa et al.

As stated above, Ogawa discloses the same ceramic honeycomb filter as recited in claim 1.

Ogawa also discloses that the partition walls defining the channels of the honeycomb have a larger porosity in order for the honeycomb bodies to have a large surface area per unit volume and have excellent heat resistance and are useful for purifying exhaust gases of internal combustion engines (page 1, lines 1-15).

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Therefore, the porosity of the surrounding wall and the partition walls of the honeycomb disclosed by Ogawa is considered to have larger porosity such as greater than 50% or in the alternative, it would have been obvious to one of ordinary skill in the art to make the honeycomb structure with the porosity of the surrounding wall and the partition walls to be larger than 50% in order for the honeycomb bodies to have a large surface area per unit volume and have excellent heat resistance for purifying exhaust gases of internal combustion engines, as taught by Ogawa.

4. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ogawa et al., as applied to claim 1 above, and further in view of Worner et al. (US 4,669,261)

As stated above, Ogawa discloses the same ceramic honeycomb filter as recited in claim 1.

Ogawa does not disclose that the central area within the virtual line on the end face of the ceramic honeycomb structure having openings of the cells provided with plug material and openings of the cells not provided with plug material arranged alternately as recited in claim 6.

Worner teaches that the honeycomb structure used for exhaust gas treatment having the inlets and outlets of the alternate channels of the honeycomb structure plugged in a check board pattern (abstract and col. 2, lines 1-20), which is the same arrangement as recited in claim 6. Worner also teaches that such arrangement improves the efficiency of the honeycomb structure and reduces the thermal load on the structural parts (col. 1, lines 30-40).

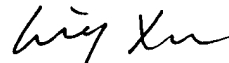
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Therefore, it would have been obvious to one of ordinary skill in the art to plug the openings of the channels as recited in claim 6 in order to improve the efficiency of the honeycomb structure and reduce the thermal load on the structural parts, as taught by Worner.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ling X. Xu whose telephone number is 571-272-1546. The examiner can normally be reached on 8:00 - 4:30 Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Deborah D. Jones can be reached on 571-272-1535. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Ling X. Xu  
Examiner  
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